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AN EXPERIMENTAL TEST OF THREE CHOICE SHIFT HYPOTHESES

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TECHNICAL REPORT NO. 13

April 1974

Prepared in connection with research under the Office of Naval Research Organizational Effectiveness Research Programs, Contract No. N00014-67-A-0226; Carl H. Castore, Principal Investigator.

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R&D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1 ORIGINATING ACTIVITY (Corporate author)

Purdue University
(Castore)

2a REPORT SECURITY CLASSIFICATION

UNCLASSIFIED

2b GROUP

3 REPORT TITLE

An Experimental Test of Three Choice Shift Hypotheses.

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

Technical Report

5 AUTHOR(S) (Last name, first name, initial)

John K. Murnighan
Carl H. Castore

14 TR-13

6. REPORT DATE	7a TOTAL NO OF PAGES	7b. NO OF REFS
	14	11

8a. CONTRACT OR GRANT NO.

N00014-67-A-0226

b PROJECT NO.

c.

d

9a ORIGINATOR'S REPORT NUMBER(S)

Technical Report #13

9b OTHER REPORT NO(S) (Any other numbers that may be assigned this report)

10 AVAILABILITY/LIMITATION NOTICES

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11. SUPPLEMENTARY NOTES

12 SPONSORING MILITARY ACTIVITY

Office of Naval Research Code 452
Organizational Eff. Res. Programs.

13 ABSTRACT

The present experiment pitted three choice shift hypotheses against one another in an attempt to eliminate one or more of the hypotheses and find support for those remaining. Subjects responded three times to the twelve CDQ items, once as a pretest, and twice following presentation of homogenous sets of three arguments which advocated either a risky or a cautious position. The risk-as-value, relevant arguments, and conformity-attitude change hypotheses generated three separate predictions for the subjects' responses. Results mirrored the prediction of the relevant arguments hypothesis: New information, whether it is contained in cautious or risky arguments, caused a shift toward the type of argument presented. The risk-as-value and the conformity-attitude change hypotheses could not explain the present data.

DD FORM 1 JAN 64 1473

UNCLASSIFIED

Security Classification

KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
group decision making risky shift preference change						

Murnighan, J. K.

AN EXPERIMENTAL TEST OF THREE CHOICE SHIFT HYPOTHESES

by

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Research on the risky shift (or choice shift) phenomenon has recently led to an impasse where several hypotheses have been proposed but where none stands out as the most plausible. Recently Pruitt (1971) has argued that experimental tests are needed to eliminate one or more hypothesis while presenting strong evidence for those hypotheses which remain.

The present study is an attempt to pit three recent hypotheses against one another. The risk-as-value hypothesis (Brown, 1975; Madaras and Bem, 1968; Pruitt, 1968) states that a choice shift depends upon two assumptions: 1) risk is valued in our culture in most situations, and 2) social comparison processes operate when a group convenes to make a decision or discuss an issue. For situations eliciting a value for risk, individuals hope to appear at least as risky as other group members. Individuals who find themselves in a group of people who have advocated a riskier position than their own shift toward risk, causing the average for the group as a whole to shift toward risk. For situations eliciting a value for caution, the same processes apply in the opposite direction and cause an apparent group shift toward caution. Several studies (e.g., Levinger and Schneider, 1969; Wallach and Wing, 1968) have supported these assumptions.

The second hypothesis, presented by Vinokur (1971), also assumes risk as a cultural value in most situations. Instead of assuming the existence of social comparison processes, however, the relevant arguments hypothesis assumes that information in the group discussion is most often information supporting the risky alternative. This information, if it is new, contributes to a group's shift toward risk in most situations. The converse holds true in situations which elicit a value for caution.

The final hypothesis to be tested in the present experiment is the conformity-attitude change hypothesis presented by Castore and Roberts (1972). This hypothesis, borrowing from Sherif's social judgement-involvement model (Sherif, Sherif, and Nebergall, 1965), assumes that the individual who is risky is also highly committed. This individual is normally the most influential group member during the group's discussion, and elicits conformity and attitude change among the other group members toward his risky position.

Figure 1 indicates the general types of individual risk preference changes which would be anticipated for Choice Dilemma Questionnaire (CDQ) type items (Kogan and Wallach, 1964) following exposure to a series of risky or cautious arguments under the foregoing three hypotheses.

Insert Figure 1 about here

These predictions may be summarized as follows:

1) Risk-as-Value Hypothesis: For the risk-oriented items, groups should shift toward risk after hearing risky arguments

and should not shift after hearing cautious arguments. The reverse holds for the two caution-oriented items.

2) Relevant Arguments Hypothesis: New information, whether it is contained in cautious or risky arguments, should cause a shift toward the type of argument presented.

3) Conformity-Attitude Change Hypothesis: Both cautious and risky arguments should change the preferences of the group, with risky arguments causing a greater shift.

METHOD

Subjects. The subjects were 68 undergraduates in the introductory psychology class at a large Midwestern university. Their participation fulfilled part of a course requirement.

Procedure. Subjects responded to the CDQ on a ten-point scale, from 1 chance in 10 through 9 chances in 10, including an opportunity to respond that the risky alternative should not be taken, regardless of the odds. (This response was scored as 10 chances in 10). Following their initial responses, subjects were presented with the first set of arguments. The arguments were homogeneous with respect to the position they advocated (i.e., all risky, or all cautious). Each set included three arguments presented by three different individuals. Subjects were told that these arguments had been tape recorded in a previous experiment and had been selected to represent the responses of three average subjects. (Actually, the arguments had been read from a script by confederates of the experimenter.) Each set advocated 1, 2, and 3 chances in 10 (risk arguments) or 7, 8, and 9 chances in 10 (caution arguments). Following

presentation of the argument set for each item, subjects responded as to their risk preferences a second time. The final stage of the experiment duplicated the previous stage, in that a set of three homogeneous arguments was again presented to the subjects before they reevaluated their risk preferences.

Design. The arguments were presented so that each subject heard six risk argument sets and six caution argument sets, during each phase of the experiment. Subjects also received each of the four possible argument sequences (risk-risk, risk-caution, caution-risk, and caution-caution), one sequence for each of three of the twelve items. Each of the twelve items was paired with each of the four argument sequences for one-fourth of the subjects. The three different risk levels advocated in each argument set were randomly ordered.

For the risk-risk and the caution-caution argument sequences the information contained in the two argument sets was the same. The second set of arguments was slightly reworded and was read by different confederates so that the arguments per se would not sound exactly the same. For the risk-caution and the caution-risk argument sequences, the information contained in each of the argument sets was different.

An example of one of the cautious arguments used for the first of the twelve items was "Staying with his present company means security for him and his family. He will receive a good pension and a good income. I don't think Mr. A should try it unless his chances are at least 7 in 10." The other arguments were similar in length and

content. Following presentation of the three arguments in each set, the subjects were requested to present an argument supporting their own current position. They were told that their responses were being tape recorded for potential use in similar experiments in the future. No such recordings were actually made; the subjects merely presented their arguments into a dead microphone.

The experiment, then, proceeded through three phases: a pretest and two posttests, each following presentation of a group of three-argument sets.

RESULTS

Three separate analyses were performed to test the predictions of the different hypotheses. An overall analysis of variance (items x arguments x trials x subjects) was performed on the subjects' risk preferences to test the predictions of the relevant arguments and the conformity-attitude change hypotheses. Two separate analyses of variance, one for the risk-oriented items and one for the caution-oriented items, were performed to test the predictions of the risk-as-value hypothesis.

The overall analysis revealed two significant main effects and two significant interactions: The items and the arguments main effects [$F(11,704)=17.11$, $p < .01$ and $F(3,64)=18.33$, $p < .01$ respectively], the items x trials interaction [$F(22,1408)=1.78$, $p < .05$] and the arguments x trials interaction [$F(6,128)=27.51$, $p < .01$].

The significant interactions were further analyzed on a post hoc basis using the Newman-Kuels procedure (Winer, 1962). The items

x trials interaction, which just reached significance, shows no significant differences between trials for any one item. Instead, the significant differences were found between items. (This result was not unexpected in the light of the main effect for items and national norms compiled for the items by Pruitt and Teger (1967). Because of these differences, additional analyses were performed on each item individually. Only one item showed a non-significant arguments x trials interaction. Although the items showed different values for the first trial, the changes caused by the arguments tended to be uniform across items. In effect, then, each individual item acted very much like the twelve items analyzed together.

Post hoc analysis of the arguments x trials interaction, shown in Figure 2, revealed that presentation of new information led to a significant shift toward the position advocated by the information. Presentation of information that was not new resulted in non-significant changes. Figures 16 and 2 are nearly identical. This then appears to be strong evidence for the relevant arguments hypothesis, and negative evidence for the conformity-attitude change hypothesis.

Analysis of the risk-oriented items revealed the same results as in the overall analysis, with only minor changes in the value of the F-ratios. Analysis of the two caution-oriented items revealed significant main effects for items [$F(1,64)=5.66, p < .01$] and for arguments [$F(3,64)=4.84, p < .01$]. The arguments x trials interaction was also significant [$F(6,128)=6.80, p < .01$]. Although post hoc differences did not reveal such clearcut findings for the caution-oriented items

as for the risk-oriented items and the overall analysis, the same basic pattern resulted. In half of the conditions where new information was presented, subjects showed a significant shift toward the type of information presented. For the other half of the conditions where new information was presented, the change was in the right direction, and close to significant values. When no new information was presented, no shift resulted. These results strongly support the relevant arguments hypothesis and refute the predictions of the risk-as-value hypothesis.

CONCLUSIONS

Before turning to the hypotheses, a general discussion of the data analysis is in order. Different hypotheses were tested by different analyses. However, all of the analyses of variance showed basically the same pattern, even those performed on the individual items. The most consistent finding in these analyses was the significance of the arguments x trials interaction. Only in the analysis of one of the items did this interaction not reach significance. This finding, that the arguments would have different effects at different trials, was an inherent assumption in this research and was strongly confirmed.

The risk-as-value hypothesis was tested with two analyses, one using only caution-oriented items and one using only risk-oriented items. Risky arguments did affect the subjects' positions on the caution-oriented items, and cautious arguments affected the subjects' positions on the risk-oriented items. It might be argued that when the risky arguments were presented, a value for risk was elicited, and that cautious arguments

likewise elicited a value for caution, regardless of the orientation of the items. This interpretation does not take into consideration that portion of the risk-as-value hypothesis which assumes that subjects are motivated to compare their responses with the other group members to determine whether, in risk-oriented situations, they are as risky or riskier than most of the other group members. When finding that the other members espouse cautious positions, the risk-as-value hypothesis would certainly predict no shift (Figure 1a). The data, however, for items well-documented in their risk- or caution-orientation (Pruitt and Teger, 1967), does reveal a shift in the direction of the arguments presented when the information is new, whether the arguments favor caution or risk. The risk-as-value hypothesis cannot explain these findings.

The conformity-attitude change hypothesis might counter the present results with an explanation of the data that cites the fact that the other "group members" were in fact not committed to their positions, but were merely reading a script. This is a plausible explanation. However, the lack of a second shift in conditions where no new information is presented cannot be explained by the conformity-attitude change hypothesis. (For that matter it can only be explained with difficulty by the risk-as-value hypothesis.)

The only hypothesis which predicts and explains all of the data in this experiment is the relevant arguments hypothesis. Its prediction was an almost perfect representation of the actual data.

New information, whether is supports risk or caution, whether it is given for risk- or caution-oriented items, produces a shift in the direction of the information presented. Information that is not new does not produce a shift. Obviously, these findings are not relevant to other hypotheses that have been presented to account for choice shifts. Further research may determine the capabilities of these hypotheses, including the survivor of the present experiment, the relevant arguments hypothesis. The tests reported here, though, at least show data strongly in favor of one specific hypothesis. It remains for other possible choice shift explanations to surpass the predictions of this hypothesis in future tests.

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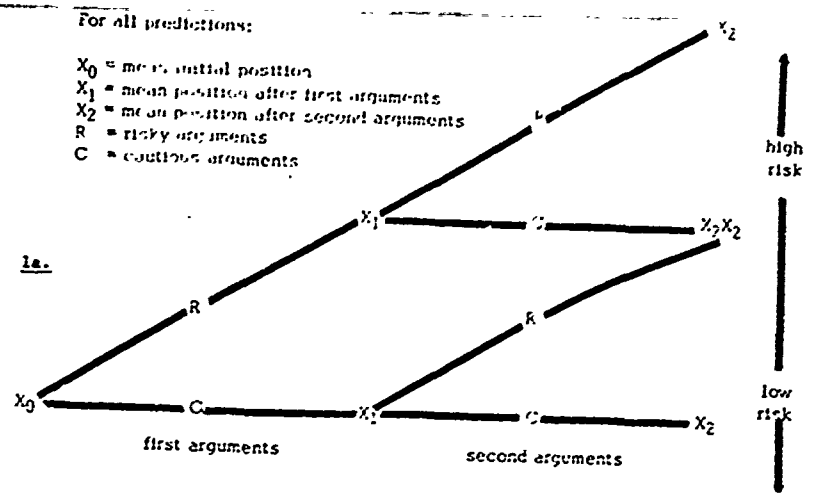
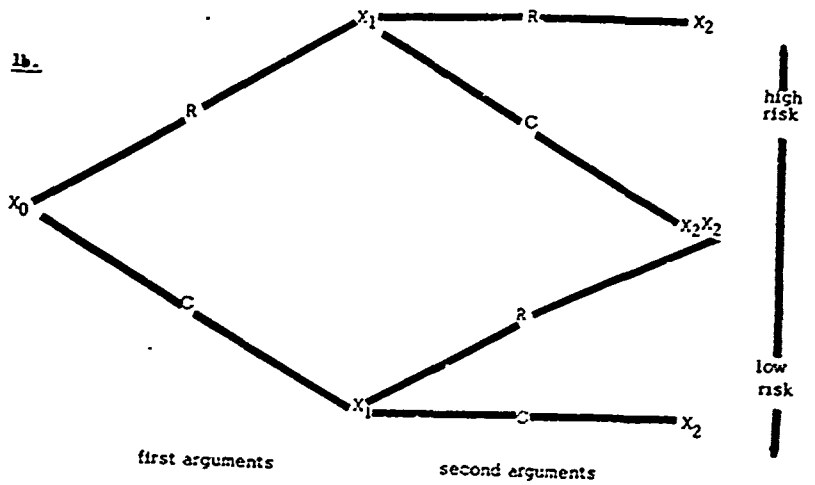
For all predictions:

X_0 = mean initial position
X_1 = mean position after first arguments
X_2 = mean position after second arguments
R = risky arguments
C = cautious arguments

1a.



1b.



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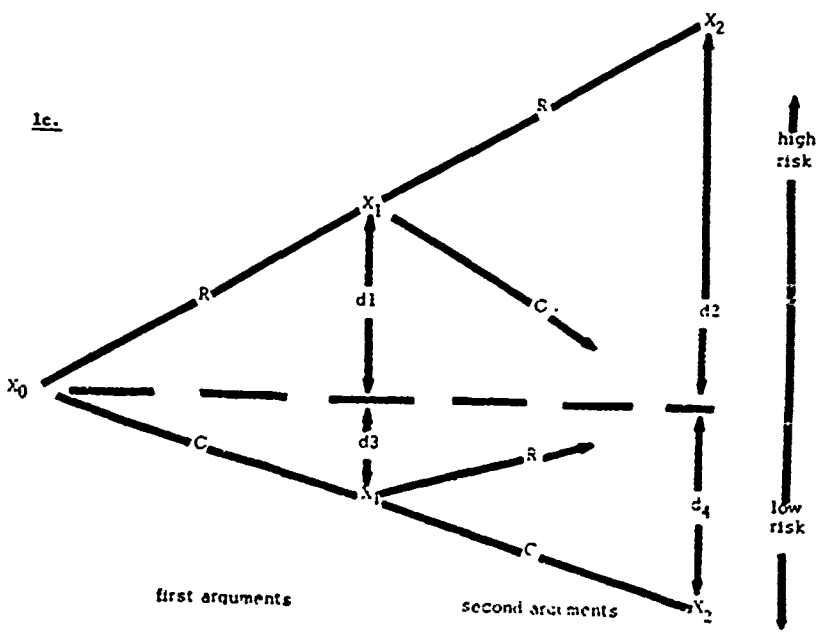

$d_1 > d_3$ and $d_2 > d_4$

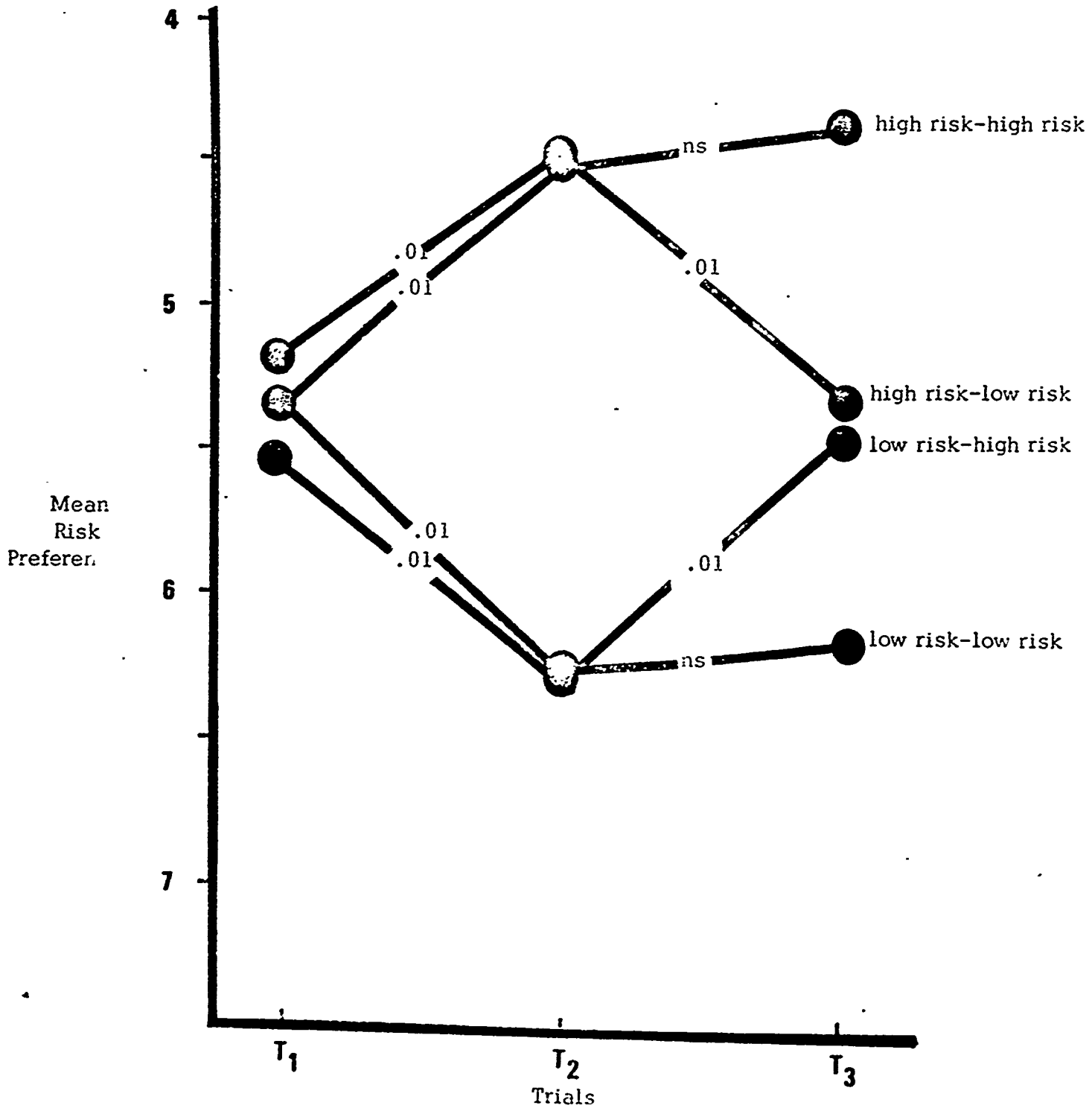
4
5
6
7
Mean
Risk
Preferen
high risk-high risk
high risk-low risk
low risk-high risk
low risk-low risk
ns
.01
.01
.01
.01
.01
.01
ns
T1
T2
T3
Trials

FIGURE CAPTIONS

1. The predictions of the three hypotheses: (a) the risk-as-value hypothesis (for risk-oriented items only; the prediction for the caution-oriented items is a mirror image of this prediction); (b) the relevant arguments hypotheses; and (c) the conformity-attitude change hypothesis.

2. The means of the arguments by trials interaction. Insertion of .01 in the figure indicates significant differences ($p < .01$) between the two connected points using the Newman-Kuels procedure; insertion of ns indicates no significant difference.

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